LISTING OF CLAIMS

Claims 1-32(canceled)

33. (Previously Presented) A process for producing an AB block copolymer, an ABA block copolymer or a multiblock copolymer,

which comprises adding an alkenyl-containing polymer (I) to a living radical polymerization system or a living cationic polymerization system,

wherein said multiblock copolymer is obtained through the living radical polymerization or the living cationic polymerization using said polymer (I) having two alkenyl groups per molecule, and a bifunctional initiator.

34. (Previously Presented) The process according to Claim 33, wherein the alkenyl group in said polymer (I) is represented by the general formula 1:

$H_2C{=}C\ (R^1)$- (1)

wherein R^1 is a hydrogen atom or a hydrocarbon group containing 1 to 20 carbon atoms.

35. (Previously Presented) The process according to Claim 34, wherein, in the general formula 1, R^1 is a hydrogen atom.

36. (Previously Presented) The process according to Claim 33, wherein the alkenyl group in the polymer (I) is not activated by any of a carbonyl group, an alkenyl group and an aromatic ring each conjugated with the carbon-carbon double bond thereof.

37. (Previously Presented) The process according to Claim 33 wherein the alkenyl group in said polymer (I) is located at a terminus of the polymer (I).

38. (Previously Presented) The process according to Claim 33, wherein the polymerization system to which the polymer (I) is to be added is a living radical polymerization system.

39. (Previously Presented) The process according to Claim 38, wherein the living radical polymerization system is an atom transfer radical polymerization system.

40. (Previously Presented) The process according to Claim 39, wherein the polymer (I) has a group capable of serving as an initiator group for atom transfer radical polymerization, and the product block copolymer is a multiblock copolymer.

41. (Previously Presented) The process according to Claim 40, wherein the group in polymer (I) which is capable of serving as an initiator group for atom transfer radical polymerization is represented by the general formula 2:

$$-C(Ar)(R^2)(X) \quad (2)$$

wherein Ar is an aryl group, which may optionally have a substituent, R^2 is a hydrogen atom or a hydrocarbon group containing 1 to 20 carbon atoms and X is chlorine, bromine or iodine.

42. (Previously Presented) The process according to Claim 40, wherein the group in polymer (I) which is capable of serving as an initiator group for atom transfer radical polymerization is represented by the general formula 3:

$$-C(CO_2R)(R^2)(X) \quad (3)$$

wherein R^2 is a hydrogen atom or a methyl group, R is an organic group containing 1 to 20 carbon atoms and X is chlorine, bromine or iodine.

43. (Previously Presented) The process according to Claim 41, wherein, in the general formulae 2 and 3, R^2 is a hydrogen atom.

44. (Previously Presented) The process according to Claim 39, wherein the metal complex to serve as a catalyst for atom transfer radical polymerization is a copper, nickel, ruthenium or iron complex.

45. (Previously Presented) The process according to Claim 44, wherein the metal complex to serve as a catalyst for atom transfer radical polymerization is a copper complex.

46. (Previously Presented) The process according to Claim 38, wherein the monomer to be polymerized in the living radical polymerization system is a (meth) acrylic monomer.

47. (Previously Presented) The process according to Claim 33, wherein the polymerization system to which the polymer (I) is to be added is a living cationic polymerization system.

48. (Previously Presented) The process according to Claim 47, wherein the polymer (I) has a group capable of serving as an initiator group for living cationic polymerization and the product block copolymer is a multiblock copolymer.

49. (Previously Presented) The process according to Claim 48, wherein the group in polymer (I) which is capable of serving as an initiator group for living cationic polymerization is represented by the general formula 2:

$$-C(Ar)(R^2)(X) \quad (2)$$

wherein Ar is an aryl group, which may optionally have a substituent, R^2 is a hydrogen atom or a hydrocarbon group containing 1 to 20 carbon atoms and X is chlorine, bromine or iodine.

50. (Previously Presented) The process according to Claim 33, wherein the polymer (I) is produced by controlled radical polymerization.

51. (Previously Presented) The process according to Claim 50, wherein the polymer (I) comprises a vinyl polymer produced by atom transfer radical polymerization.

52. (Previously Presented) The process according to Claim 51, wherein the polymer (I) is produced by atom transfer radical polymerization using an alkenyl-containing initiator.

53. (Previously Presented) The process according to Claim 52, wherein the polymer (I) is produced by using an allyl halide as an initiator.

54. (Previously Presented) The process according to Claim 33, wherein the polymer (I) is produced by living cationic polymerization.

55. (Previously Presented) The process according to Claim 54, wherein the polymer (I) produced by living cationic polymerization is selected from the group consisting of styrenic polymers, isobutylene polymers, polyether polymers and vinyl ether polymers.

56. (Previously Presented) The process according to Claim 33, wherein the polymer (I) is a vinyl polymer.

57. (Previously Presented) The process according to Claim 33, wherein the polymer (I) is a polyolefin polymer.

58. (Previously Presented) The process according to Claim 33, wherein the polymer (I) is a hydrocarbon polymer.

59. (Previously Presented) The process according to Claim 33, wherein the polymer (I) is a polyester polymer.

60. (Previously Presented) The process according to Claim 33, wherein the polymer (I) is a polyether polymer.

61. (Previously Presented) The process according to Claim 33, wherein the polymer (I) is a polysiloxane polymer.

62. (Previously Presented) The process according to Claim 33, wherein the polymer (I) has a glass transition point not lower than 25°C and the polymer chain newly produced by atom transfer radical polymerization with the addition of polymer (I) has a glass transition point not higher than 25°C, or the polymer (I) has a glass transition point not higher than 25°C and the polymer chain newly produced by atom transfer radical polymerization with the addition of polymer (I) has a glass transition point not lower than 25°C.

63. (Previously Presented) A process for producing an AB block copolymer, an ABA block copolymer or a straight chain multiblock copolymer,

which comprises adding an alkenyl-containing polymer (I) to an atom transfer radical polymerization system or a living cationic polymerization system to obtain an AB block copolymer, an ABA block copolymer or a straight-chain copolymer.

64. (Currently Amended) A process for ~~producting~~ producing block copolymer, an ABA block copolymer or a multiblock copolymer,

which comprises adding an alkenyl-containing polymer (I) to a living radical polymerization system or a living cationic polymerization system,

wherein said polymer (I) has both said alkenyl group and an initiator group for the living radical polymerization or the living cation polymerization, and said vinyl polymer (I) has an alkenyl group at one terminus, and an initiator group at the other terminus .

65. (New) A process for producing an AB block copolymer, an ABA block copolymer or a straight chain multiblock copolymer, which comprising adding an alkenyl-containing polymer (I) to an atom transfer radical polymerization system or a living cationic polymerization system for reaction of the alkenyl group of said polymer, to obtain an AB block copolymer, an ABA block copolymer or a straight-chain multiblock copolymer.

66. (New) A process for producing an AB block copolymer, an ABA block copolymer or a multiblock copolymer, which comprises adding an alkenyl-containig polymer (I) to a living radical polymerization system or a living cationic polymerization system for reaction of the alkenyl group of said polymer, wherein said polymer (I) has both said alkenyl group and an initiator group for the living radical polymerization or the living cation polymerization, and said vinyl polymer (I) has an alkenyl group at one terminus, and an initiator group at the other terminus.